SCOTT FITZHUGH BRIDGE(Paris Landing)
Spanning the Tennessee River at State Highway 76
Paris
Henry County
Tennessee

HAER No. TN-39

HAER
TENN
40-PARIS,
3-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Southeast Region
Department of the Interior
Atlanta, Georgia 30303

HAER
TENN
40-PARIS,
3-

HISTORIC AMERICAN ENGINEERING RECORD

SCOTT FITZHUGH BRIDGE (Paris Landing) HAER No. TN-39

LOCATION: State Highway 76 spanning Tennessee River on the Henry-Stewart County Line, east of Paris Landing State Park

U.S.G.S. 7.5 minute Paris Landing (19NE), Tennessee, quadrangle, Universal Transverse Mercator coordinates: 16.404370. 4035420; 16,405810.4035760

DATE OF CONSTRUCTION: 1927-29 (altered 1940s)

DESIGNED BY: Tennessee State Department of Highways and Public Works

PRESENT OWNER: Tennessee Department of Transportation
Suite 700 James K. Polk Building
505 Deaderick Street
Nashville, Tennessee 37219

PRESENT USE: Vehicular bridge
To be delmolished 1989

SIGNIFICANCE: The Paris Landing Bridge is significant as a representative example of the Pratt and Parker through truss types as well as for its historical associations with the State highway system and toll bridge program in the late 1920s.

REPORT PREPARED BY: Martha Carver
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505 Deaderick Street
Nashville, Tennessee 37219

DATE: February 1987

The Paris Landing Bridge, technically designated as the Scott Fitzhugh Bridge, is located on State Route 76 over the Tennessee River (Kentucky Lake) on the county line between Henry and Stewart Counties. The bridge is owned by the State of Tennessee and is located at the entrance to Paris Landing State Park. State Route 76 is a major thoroughfare connecting Middle and West Tennessee. Up to the early twentieth century, few bridges were built in West Tennessee over the Tennessee River which was a major barrier running north and south thus separating West and Middle Tennessee. However, in the 1920s the State Highway Department erected four bridges in West Tennessee across the river. Today these four crossings plus two others are the only bridges spanning the Tennessee River in West Tennessee. Thus each serves as a major transportation corridor.

In 1915 the State Legislature created the Tennessee State Highway Department which was reorganized in 1919 with the directive to develop a state highway system. This resulted in a State-wide program to designate roads connecting county seats as state routes. In 1925 the State assumed control over these roads and authorized five million dollars for bridge and road work on these routes. Thus a major state-wide road and bridge building effort by the State Highway Department ensued. It was at this time that standarized plans for bridges built by the State came into use. In an effort to further expand the funding base for this program, the State also authorized in 1927 and 1929 the construction of twenty-one special toll bridges to span major waterways. State employees lived in toll houses near the bridges to collect the toll fees. Of the sixteen toll bridges built, four were in West Tennessee across the Tennessee River at Paris Landing, New Johnsonville, Perryville, and Savannah. These were somewhat equidistantly spread from north to south providing ready access over the Tennessee River for the entire region. The effectiveness of these locations can be seen in the fact that today these four crossings plus a bridge across the 1963 Pickwick Dam and a 1960s bridge on Interstate 40 are the only vehicular bridge crossings across the Tennessee River in West Tennessee. Within the past decade the truss bridges at New Johnsonville, Perryville, and Savannah have been replaced with modern structures.

The toll bridge system proved to be financially ineffective as the tolls did not generate the anticipated revenue. In 1939 the Legislature freed eight bridges, including the Paris Landing Bridge, that had not for the past three fiscal years yielded gross revenue from tolls of an amount sufficient to defray the salaries of the toll-keepers and pay two percent of the original cost of each bridge as a maintenance fund; the remaining bridges were freed in 1947. Once freed the houses that the toll keepers lived in were sold and usually relocated to another site. It is unknown what happened to the toll house at this bridge.

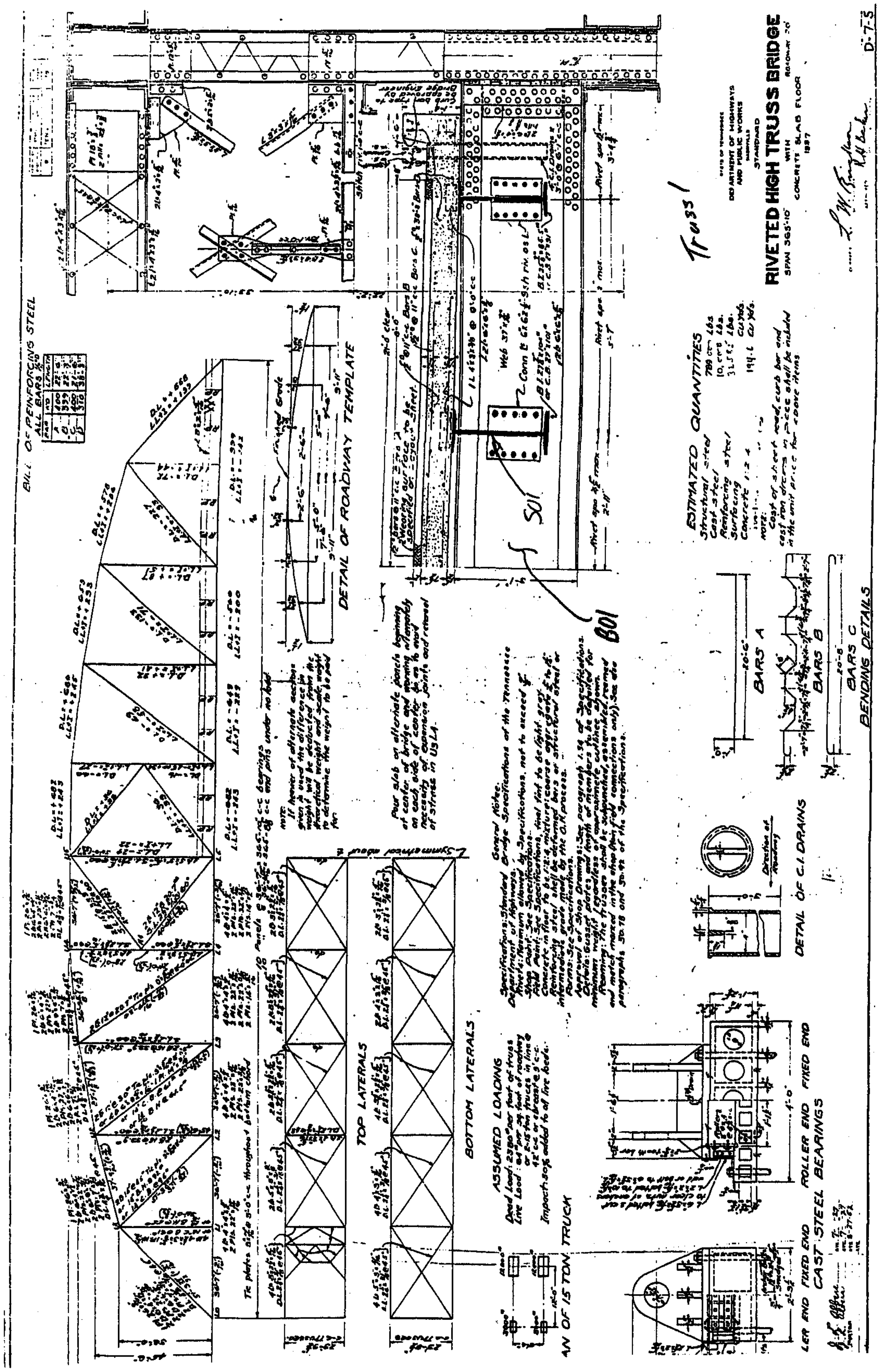
In the late 1940s, the Tennessee Valley Authority build a dam on the Tennessee River in southern Kentucky known as Kentucky Dam. Since the dam caused the water levels to increase, the Tennessee Valley Authority raised, relocated, or provided protective measures for several bridges, twenty-four sections of highways, and two major bridges at Paris Landing and New Johnsonville. About 1948 the substructure of the Paris Landing Bridge was vertically extended to increase the height of the bridge. On several ocassions the piers have been repaired after being struck by barges.

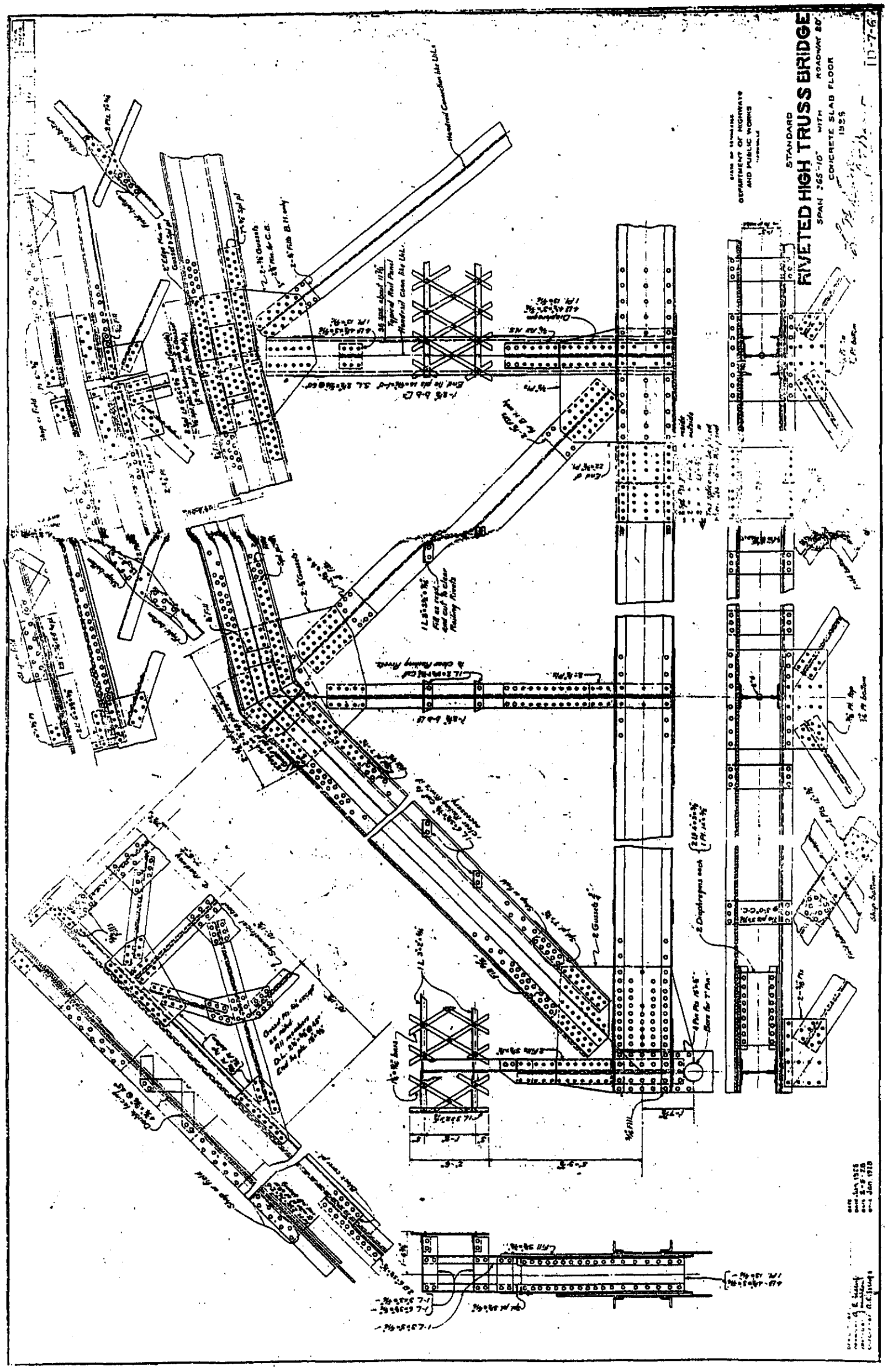
In 1927 the State Legislature authorized $1,029,390.66 to build this bridge at the mouth of the Sandy River near Fort Henry. Officially designated the Scott Fitzhugh Bridge, it is commonly known as the Paris Landing Bridge since it is located at the entrance to the Paris Landing State Park.

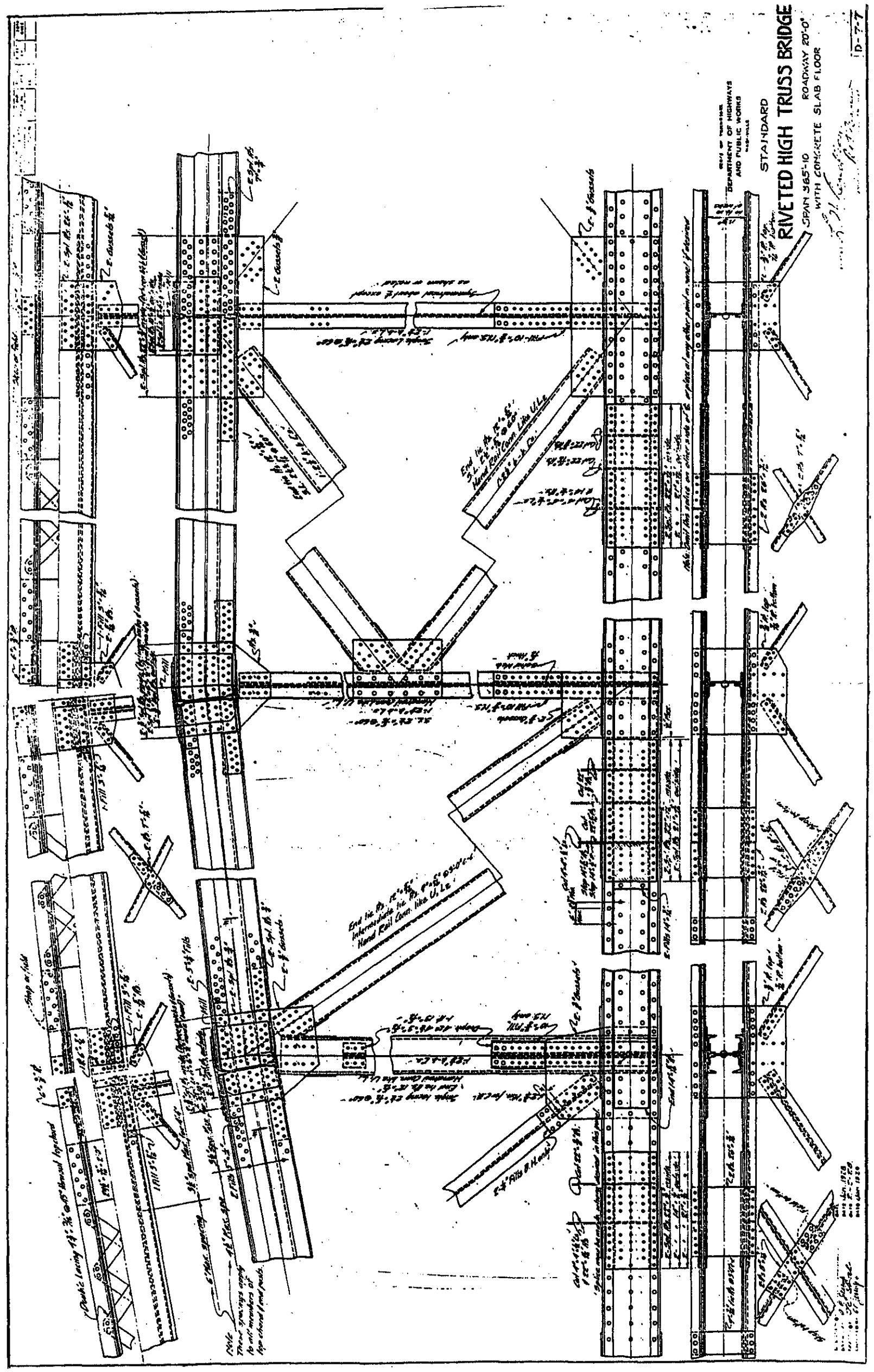
Designed and erected by the Tennessee Department of Highways and Public Works, the bridge is 4,734 feet in length and has a 20-foot roadway. Resting on a concrete substructure, it is composed of eight spans, eleven riveted through (high) steel trusses and sixty-nine (69) concrete deck girder spans. There are eight Pratt trusses at 120 feet each, two Parker through trusses at 320 feet each, and one Parker through truss which is 365 feet in length. (See the drawing.) Unusually large in scale, the bridge contains more truss spans than any other bridge in the State.

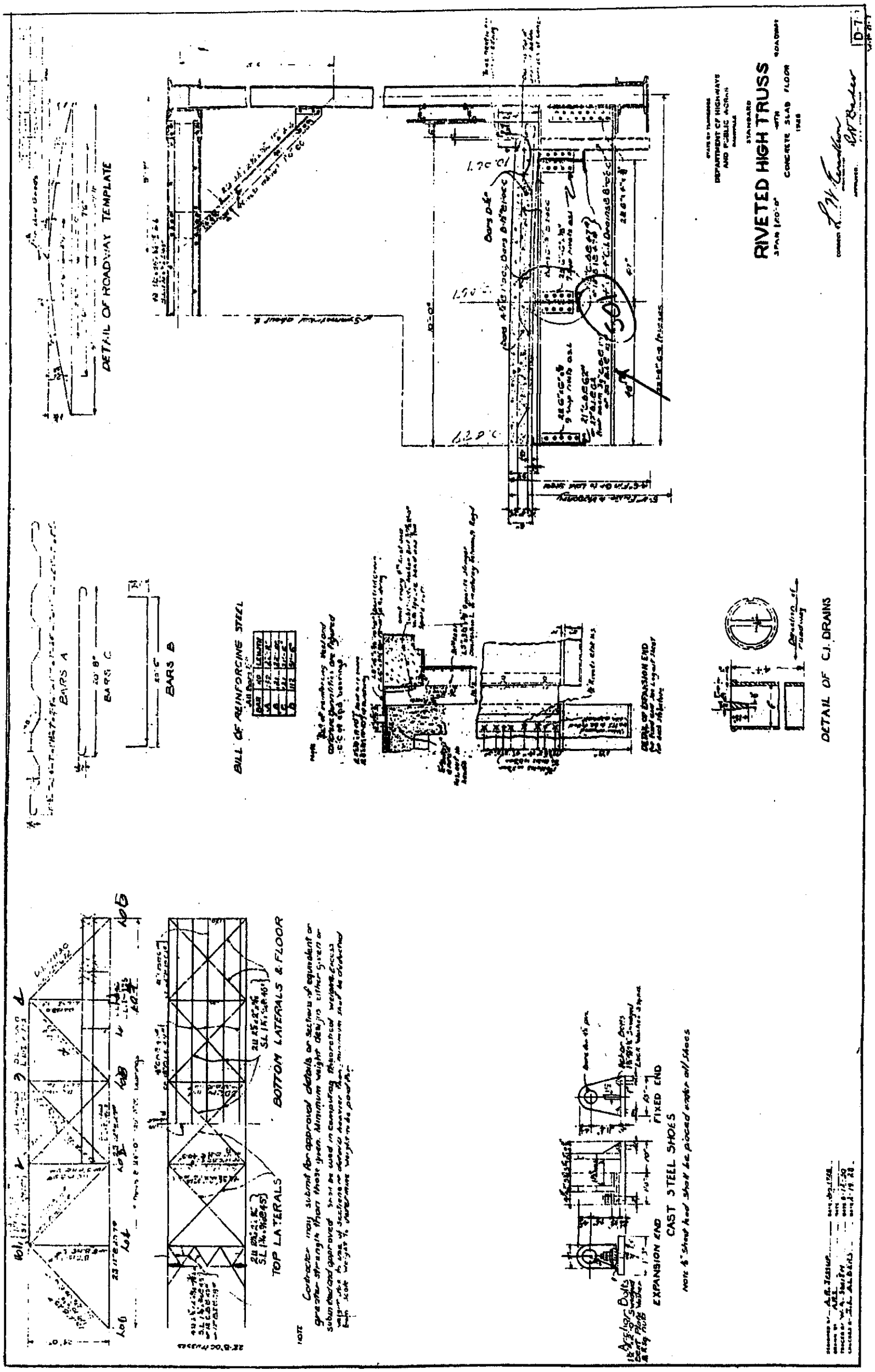
The bridge contains a concrete spindle railing on the approach spans and a metal lattice rail on the trusses. This is typical of State bridges built during this period. Composition of the members is also typical of the State bridges during this time. The top chords and end posts are channels with lacing. The bottom chords are small channels with battens. On the Pratts the diagonals are small channels except in the center panel where the diagnals and counters are angles with battens. On the Parkers the verticals are paired angles with lacing or small channels. The diagonals are paired angles with battens or small channels. In the two center panels of the Parkers a diamond is formed by compression members of small channels with lacing.

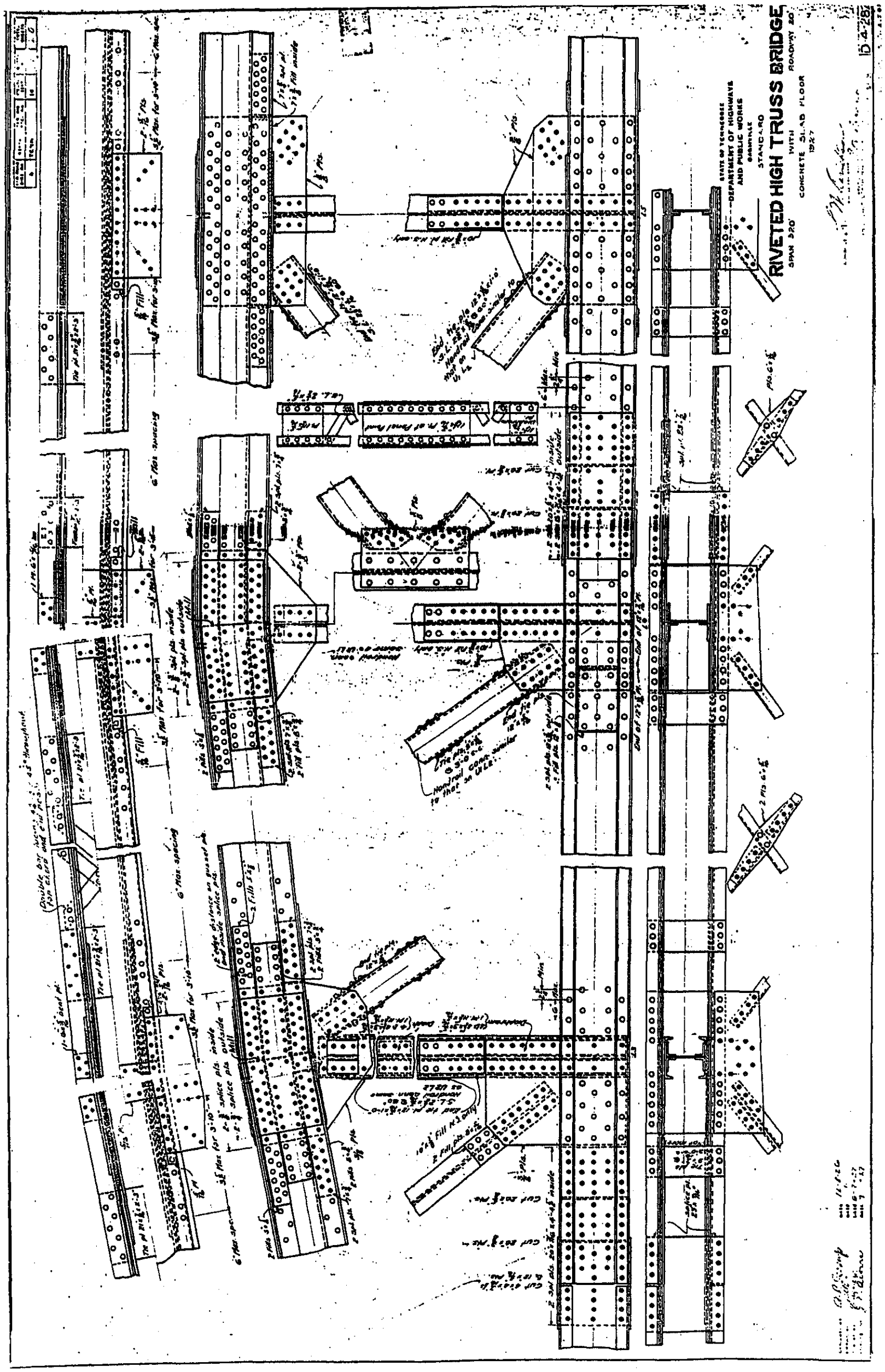
The Paris Landing Bridge derives its significance from its representative nature as an example of the Pratt and Parker truss types as well as from its historical association with the development of the State highway system and the State toll bridge program.

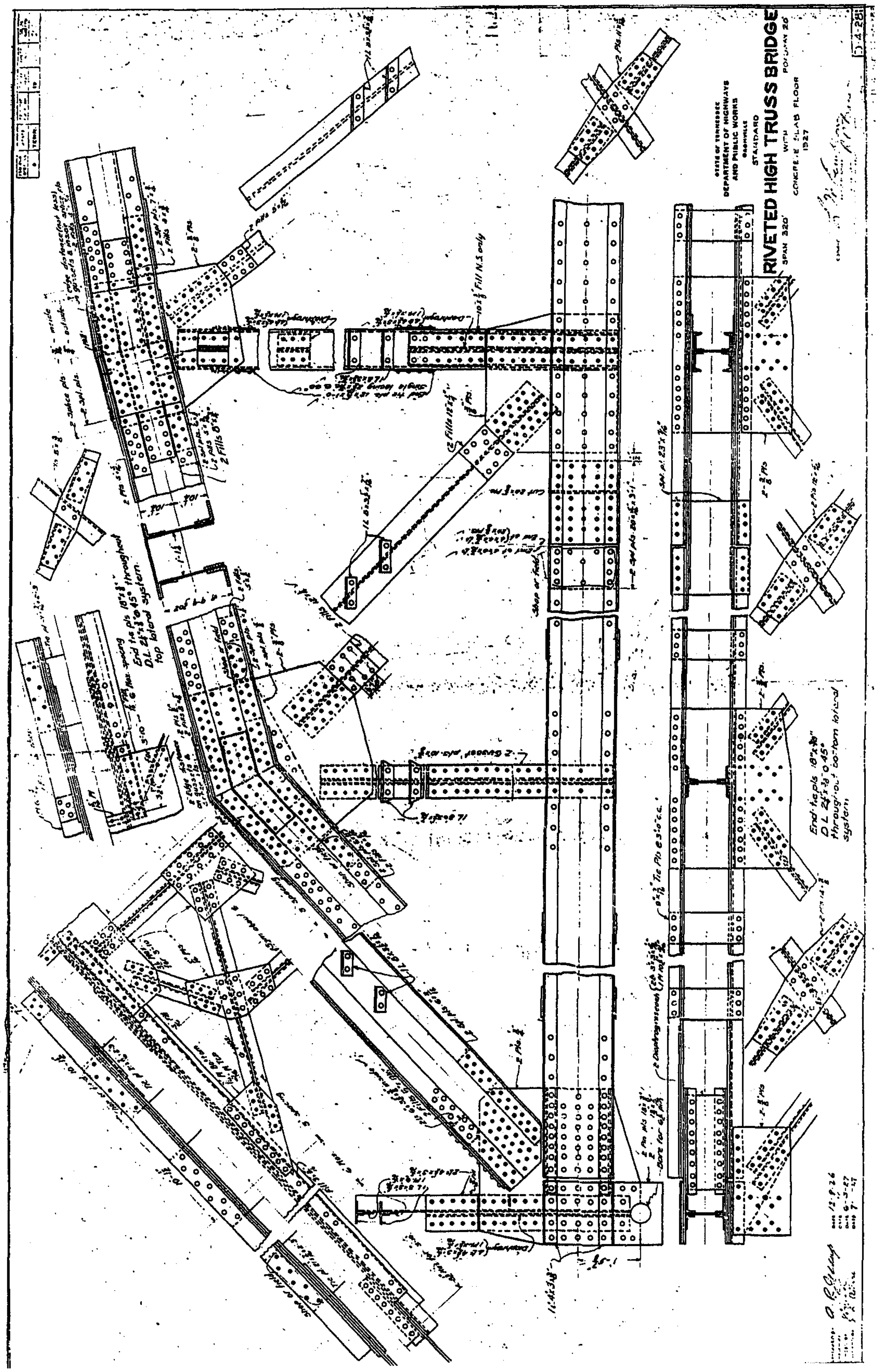

RIVETED HIGH TRUSS BRIDGE
SPAN 365'-10"
WITH CONCRETE SLAB FLOOR
1937
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
STANDARD
D-7-5
Truss
DETAIL OF ROADWAY TEMPLATE
BILL OF REINFORCING STEEL
ESTIMATED QUANTITIES
BARS A
BARS B
BARS C
BENDING DETAILS
DETAIL OF C.I. DRAINS
TOP LATERALS
BOTTOM LATERALS
ASSUMED LOADING
CAST STEEL BEARINGS
ROLLER END
FIXED END
S01
B01

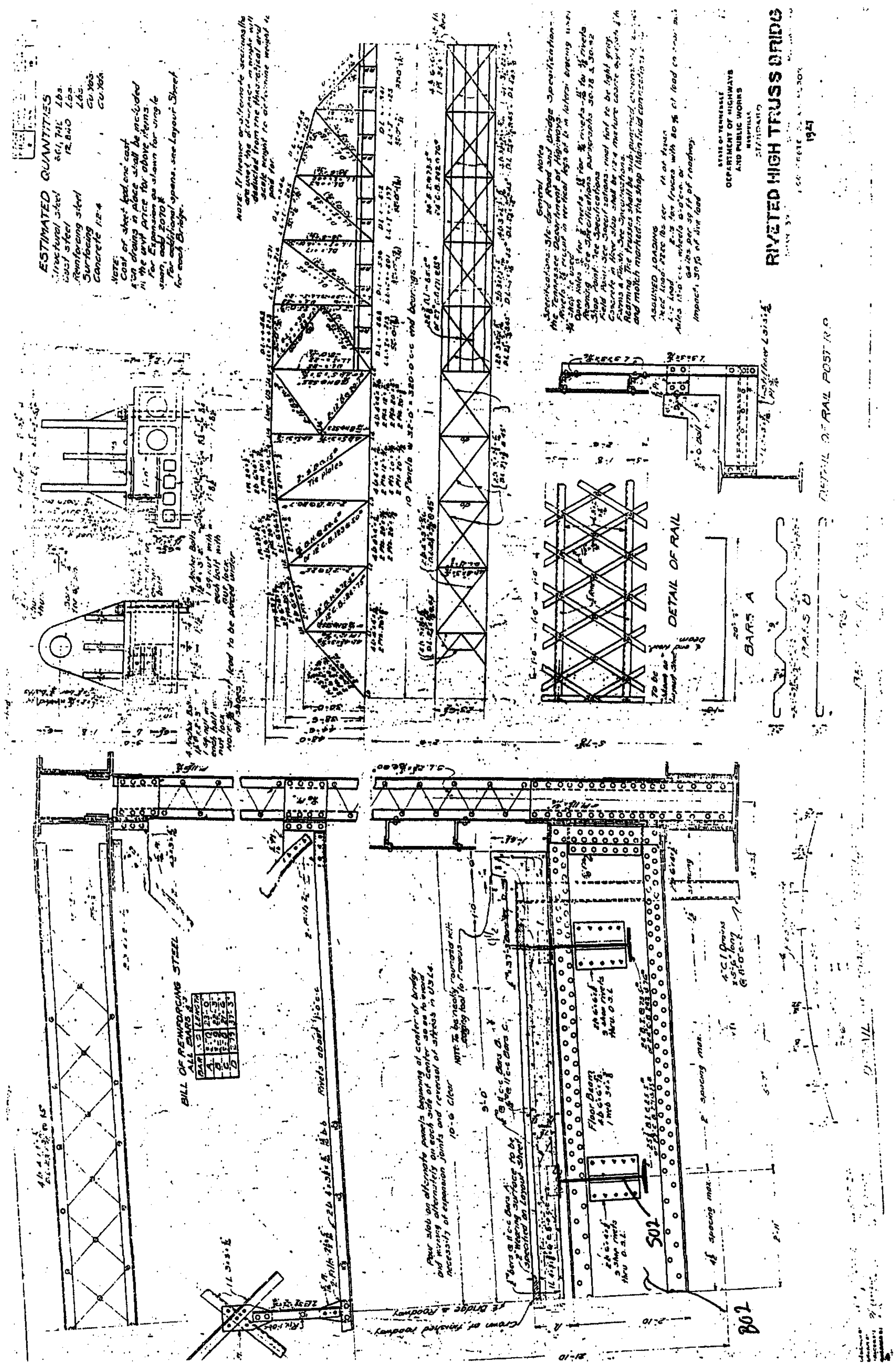

STANDARD
RIVETED HIGH TRUSS BRIDGE
SPAN 365'-10" WITH ROADWAY 20'
CONCRETE SLAB FLOOR
1925
DEPARTMENT OF HIGHWAYS AND PUBLIC WORKS
TENNESSEE
TD-7-6

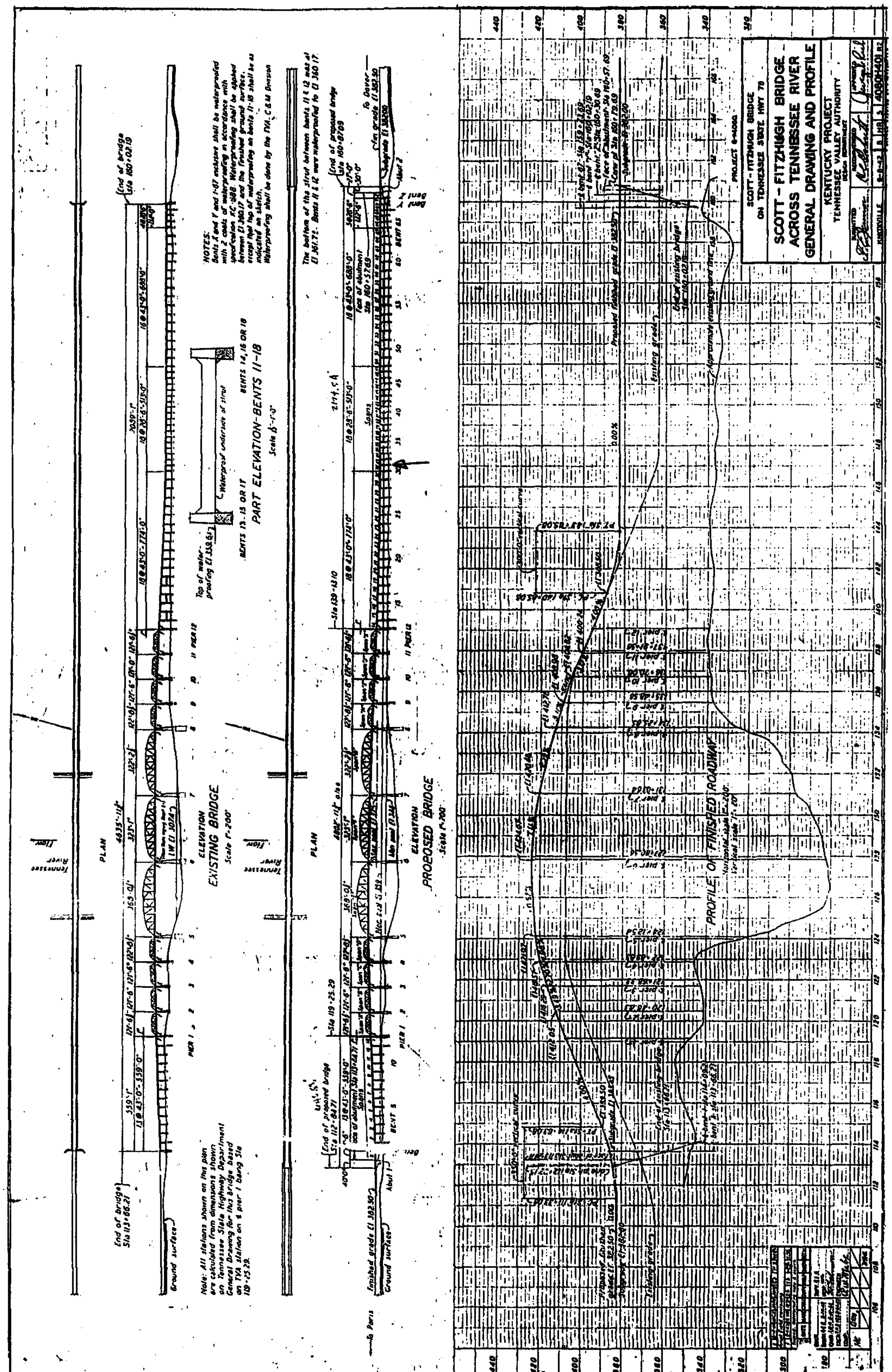

STANDARD
RIVETED HIGH TRUSS BRIDGE
SPAN 365'-10"
ROADWAY 20'-0"
WITH CONCRETE SLAB FLOOR
D-7-7

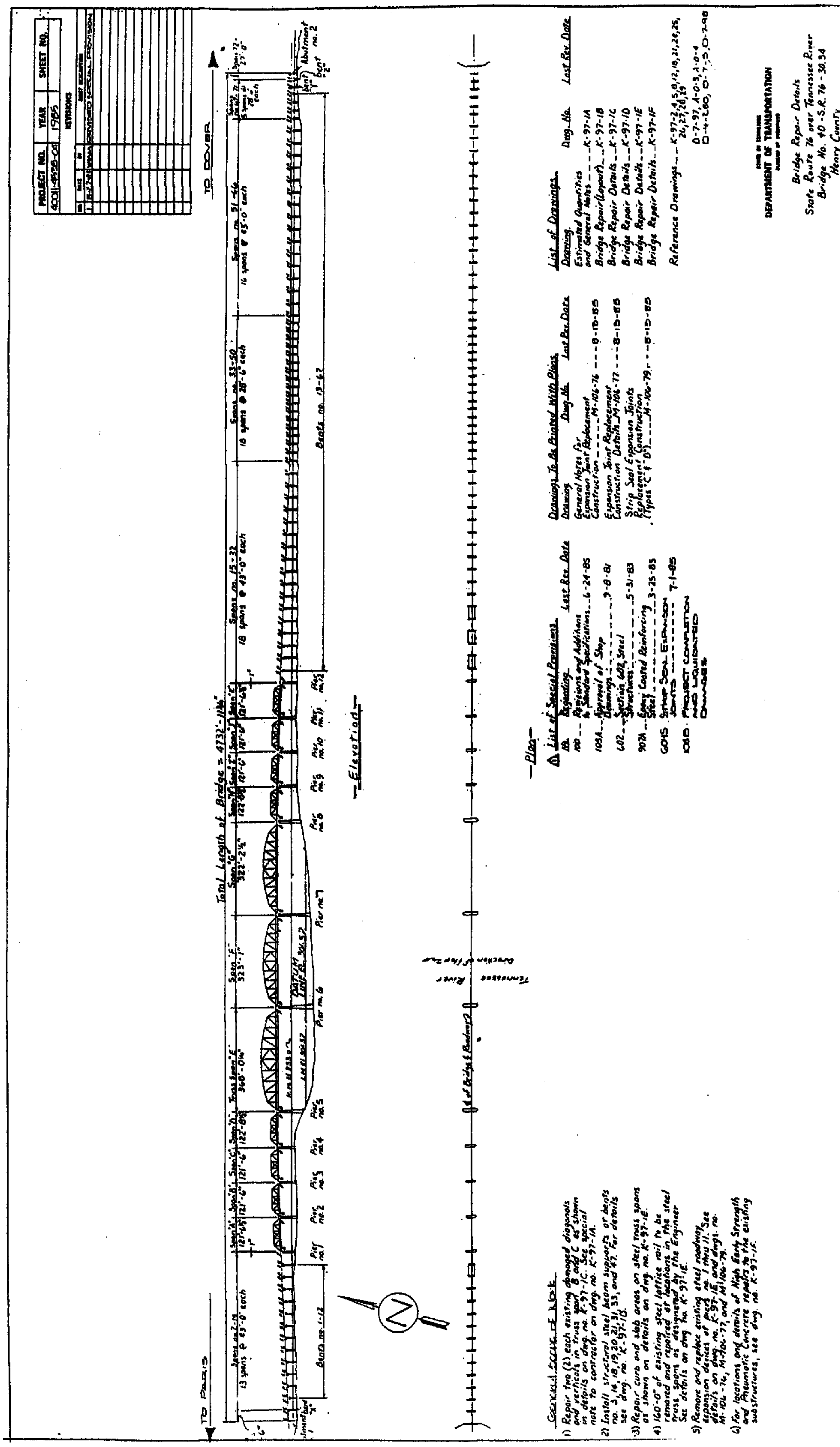

RIVETED HIGH TRUSS
DETAIL OF ROADWAY TEMPLATE
BILL OF REINFORCING STEEL
BOTTOM LATERALS & FLOOR
TOP LATERALS
EXPANSION END
FIXED END
CAST STEEL SHOES
DETAIL OF C.I. DRAINS

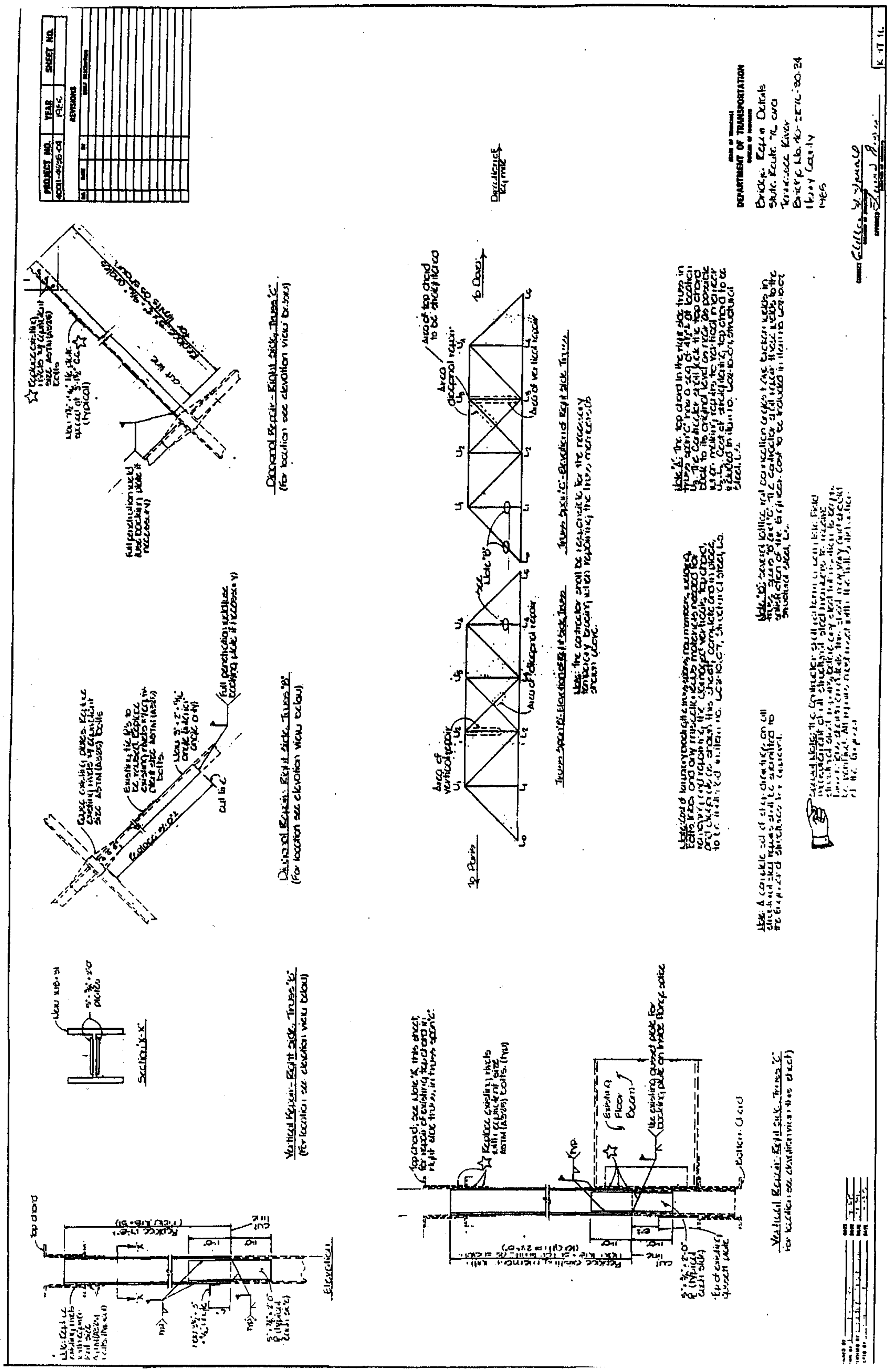

RIVETED HIGH TRUSS BRIDGE
SPAN 320'
ROADWAY 20'
WITH
CONCRETE SLAB FLOOR
1927
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
GRAHAM
STANDARD
15-4-28

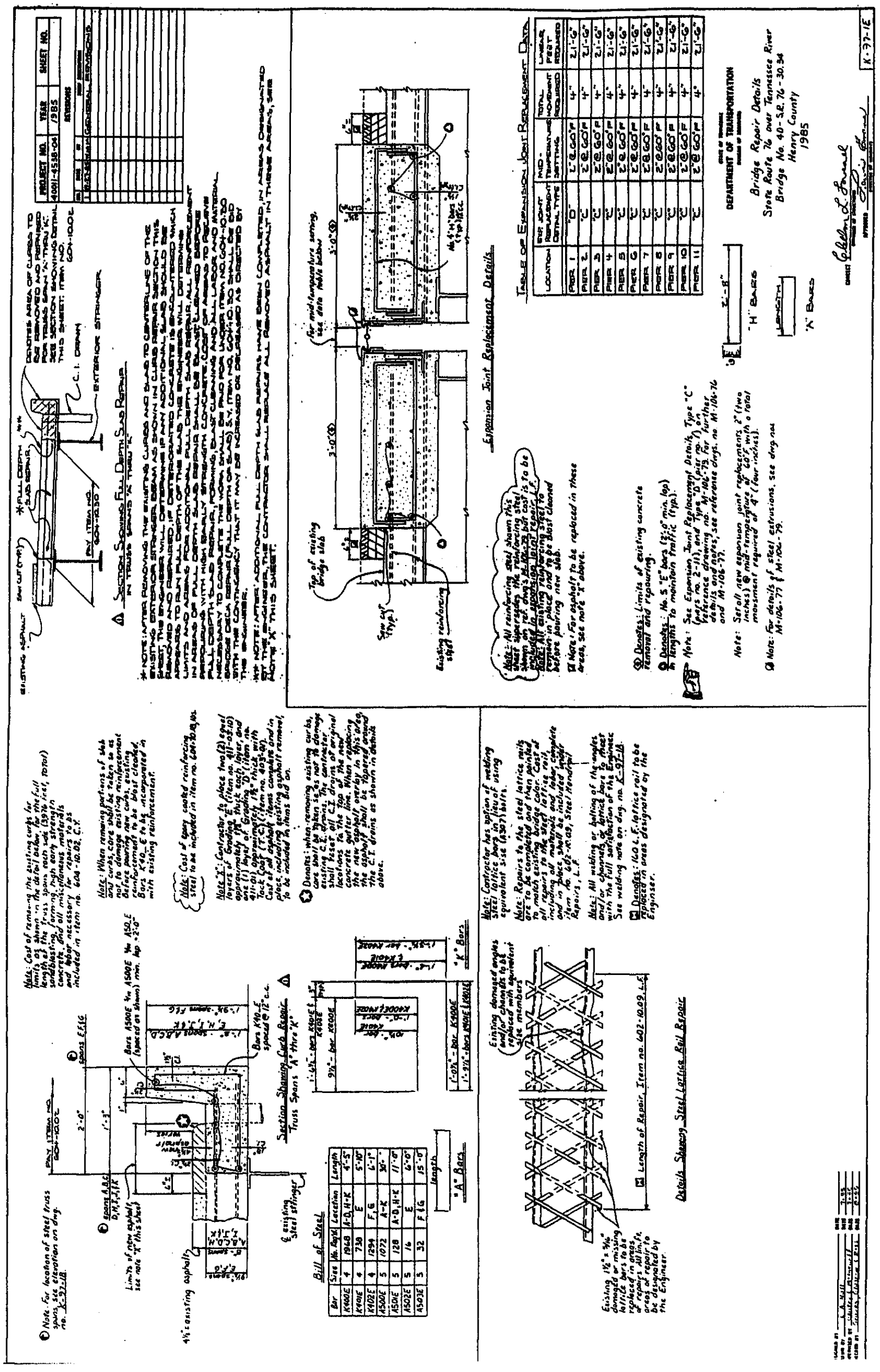

STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
STANDARD
RIVETED HIGH TRUSS BRIDGE
SPAN 320'
ROADWAY 20'
WITH
CONCRETE SLAB FLOOR
1927
End tie pls 18"x3/8"
D.L. 2 1/2"x3/8" @ 45° throughout
top lateral system.
End tie pls 18"x3/8"
D.L. 2 1/2"x3/8" @ 45°
throughout bottom lateral
system


ESTIMATED QUANTITIES
Structural steel 361,716 Lbs.
Cast steel 12,840 Lbs.
Reinforcing steel Lbs.
Surfacing Cu.Yds.
Concrete 1:2:4 Cu.Yds.
General Notes
ASSUMED LOADING
10 Panels @ 32'-0" = 320'-0" c-c end bearings
Tie plates
DETAIL OF RAIL
DETAIL OF RAIL POST
BARS A
BARS D
BILL OF REINFORCING STEEL
Floor Beam
STATE OF TENNESSEE
DEPARTMENT OF HIGHWAYS
AND PUBLIC WORKS
NASHVILLE
RIVETED HIGH TRUSS BRIDG
502
802


SCOTT - FITZHUGH BRIDGE
ON TENNESSEE STATE HWY 76
SCOTT - FITZHUGH BRIDGE
ACROSS TENNESSEE RIVER
GENERAL DRAWING AND PROFILE
KENTUCKY PROJECT
TENNESSEE VALLEY AUTHORITY
4080H401
PLAN
ELEVATION
EXISTING BRIDGE
Scale 1"=200'
PROPOSED BRIDGE
Scale 1"=200'
PART ELEVATION-BENTS 11-18
PROFILE OF FINISHED ROADWAY
Horizontal scale 1"=200'
Vertical scale 1"=20'
Tennessee River
Flow
NOTES:
Bents X and Y and 1-67 inclusive shall be waterproofed with 2 coats of waterproofing in accordance with specification KC-388. Waterproofing shall be applied between El 360.17 and the finished ground surface, except that top of waterproofing on bents 11-18 shall be as indicated on sketch.
Waterproofing shall be done by the TVA, C&M Division
The bottom of the strut between bents 11 & 12 was at El 361.72. Bents 11 & 12 were waterproofed to El 360.17.
Note: All stations shown on this plan are calculated from dimensions shown on Tennessee State Highway Department General Drawing for this bridge based on TVA station on ℄ pier 1 being Sta 119+25.29.
End of bridge Sta 113+66.21
End of bridge Sta 180+02.19
End of proposed bridge Sta 112+84.71
End of proposed bridge Sta 180+87.09
To Paris
To Dover
Ground surface
Finished grade El 382.50
Existing grade
Proposed finished grade El 382.50
0.00%
2.00%


PROJECT NO. 4001-4528-04
YEAR 1985
SHEET NO.
REVISIONS
TO DOVER
TO PARIS
Total Length of Bridge = 4732'-11¾"
Spans no. 2-13 13 spans @ 43'-0" each
Span 'A' 121'-4⅝"
Span 'B' 121'-6"
Span 'C' 121'-6"
Span 'D' 122'-8⅛"
Truss Span 'E' 368'-0¼"
Span 'F' 323'-1"
Span 'G' 322'-2½"
Span 'H' 122'-8⅛"
Span 'I' 121'-6"
Span 'J' 121'-6"
Span 'K' 121'-4⅝"
Spans no. 15-32 18 spans @ 43'-0" each
Spans no. 33-50 18 spans @ 28'-6" each
Spans no. 51-66 16 spans @ 43'-0" each
Spans no. 67-71 5 spans @ 28'-6" each
Span 72 27'-0"
Bents no. 1-12
Bents no. 13-67
Pier no. 1
Pier no. 2
Pier no. 3
Pier no. 4
Pier no. 5
Pier no. 6
Pier no. 7
Pier no. 8
Pier no. 9
Pier no. 10
Pier no. 11
Pier no. 12
Bent "Y"
Bent "Z"
Abutment no. 2
DATUM LINE EL. 301.57
—Elevation—
—Plan—
Tennessee River
Direction of Flow
℄ of Bridge & Roadway
General Scope of Work
1) Repair two (2) each existing damaged diagonals and verticals in truss spans B and C as shown in details on dwg. no. K-97-1C. See special note to contractor on dwg. no. K-97-1A.
2) Install structural steel beam supports at bents no. 3, 14, 18, 19, 20, 21, 31, 33, and 47. For details see dwg. no. K-97-1D.
3) Repair curb and slab areas on steel truss spans as shown on details on dwg. no. K-97-1E.
4) 160'-0" of existing steel lattice rail to be removed and repaired at locations in the steel truss spans as designated by the Engineer. See details on dwg. no. K-97-1E.
5) Remove and replace existing steel roadway expansion devices at piers no. 1 thru 11. See details on dwg. no. K-97-1E and dwgs. no. M-106-76, M-106-77, and M-106-79.
6) For locations and details of High Early Strength and Pneumatic Concrete repairs to the existing substructures, see dwg. no. K-97-1F.
List of Special Provisions
No. Regarding Last Rev. Date
100 Revisions and Additions to Standard Specifications 6-24-85
103A Approval of Shop Drawings 9-8-81
602 Section 602, Steel Structures 5-31-83
907A Epoxy Coated Reinforcing Steel 3-25-85
604S Strip Seal Expansion Joints 7-1-85
108D Project Completion and Liquidated Damages
Drawings To Be Printed With Plans
Drawing Dwg. No. Last Rev. Date
General Notes for Expansion Joint Replacement Construction M-106-76 8-10-85
Expansion Joint Replacement Construction Details M-106-77 8-15-85
Strip Seal Expansion Joints Replacement Construction (Types "C" & "D") M-106-79 8-15-85
List of Drawings
Drawing Dwg. No. Last Rev. Date
Estimated Quantities and General Notes K-97-1A
Bridge Repair (Layout) K-97-1B
Bridge Repair Details K-97-1C
Bridge Repair Details K-97-1D
Bridge Repair Details K-97-1E
Bridge Repair Details K-97-1F
Reference Drawings K-97-2,4,5,8,12,18,21,24,25,26,27,28,29
D-7-97, A-0-3, A-0-4
D-4-280, D-7-5, D-7-98
DEPARTMENT OF TRANSPORTATION
Bridge Repair Details
State Route 76 over Tennessee River
Bridge No. 40-S.R. 76-30.34
Henry County
1985
K-97-1B


PROJECT NO.
YEAR
SHEET NO.
REVISIONS
Section X-X
Elevation
DEPARTMENT OF TRANSPORTATION


PROJECT NO. 40011-4538-04
YEAR 1985
SHEET NO.
Table of Expansion Joint Replacement Data
Bridge Repair Details
State Route 76 over Tennessee River
Bridge No. 40-S.E. 76-30.54
Henry County
1985
K-37-1E
Section Showing Full Depth Slab Repair
Expansion Joint Replacement Details
Section Showing Curb Repair
Truss Spans "A" thru "K"
Bill of Steel
Details Showing Steel Lattice Rail Repair